

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. **(currently amended)** A method of switching between a WCDMA modem and a CDMA-2000 modem of an MM-MB (multimode-multiband) terminal, when the MM-MB terminal being in a WCDMA idle state moves from an overlay zone into a CDMA-2000 zone, said method comprising the steps of:

(a) receiving a WCDMA signal transmitted from a WCDMA system, and measuring an Ec/Io (energy of carrier/interference of others) value by using the WCDMA signal;

(b) determining whether the Ec/Io value is lower than a predetermined CDMA-2000 ON threshold TH_{ON} ;

(c) if it is determined at step (b) that the Ec/Io value is lower than TH_{ON} , starting to measure a time lapse, wherein the time lapse ~~which~~ is a cumulative time during which the Ec/Io value remains lower than the CDMA-2000 ON threshold TH_{ON} , and determining whether the time lapse exceeds a preset CDMA-2000 ON condition time H_d ;

(d) if it is determined at step (c) that the time lapse exceeds H_d , activating the CDMA-2000 modem, wherein the CDMA-2000 modem is activated before the MM-MB terminal leaves the overlay zone and while the WCDMA modem is still being activated to keep the MM-MB terminal in the WCDMA idle state; and

(e) performing an initialization for a CDMA-2000 system to switch the MM-MB terminal from the WCDMA idle state into a CDMA-2000 idle state.

2. (previously presented) The method of claim 1, wherein

the MM-MB terminal inspects a CPICH (common pilot channel) periodically to receive the WCDMA signal at step (a).

3. (canceled)

4. (original) The method of claim 1, wherein the initialization at step (e) is performed through a system determination substate, a pilot channel acquisition substate and a synchronous channel acquisition substate.

5. (previously presented) The method of claim 1, wherein, after being switched into the CDMA-2000 idle state at step (e), the MM-MB terminal deactivates the WCDMA modem.

6. **(currently amended)** A method of switching between a WCDMA modem and a CDMA-2000 modem of an MM-MB terminal, when the MM-MB terminal moves from an overlay zone into a CDMA-2000 zone while handling a WCDMA call, said method comprising the steps of:

(a) while the MM-MB terminal is handling the WCDMA call by the active WCDMA modem ~~which is being activated~~, receiving a WCDMA signal transmitted from a WCDMA system, and measuring an E_c/I_o (energy of carrier/interference of others) value by using the WCDMA signal;

(b) determining whether the E_c/I_o value is lower than a predetermined CDMA-2000 ON threshold TH_{ON} ;

(c) if it is determined at step (b) that the E_c/I_o value is lower than TH_{ON} , starting to measure a time lapse, wherein the time lapse ~~which~~ is a cumulative time during which the E_c/I_o value remains lower than the CDMA-2000 ON threshold TH_{ON} , and determining whether the time lapse exceeds a preset CDMA-2000 ON condition time H_d ;

(d) before the MM-MB terminal leaves the overlay zone and while the WCDMA

modem is still actively handling the WCDMA call, if it is determined at step (c) that the time lapse exceeds H_d , activating the CDMA-2000 modem, and then determining whether the WCDMA call has been terminated, ~~wherein the CDMA-2000 modem is activated before the MM-MB terminal leaves the overlay zone and while the WCDMA modem is still being activated to handle the WCDMA call~~; and

(e) if the WCDMA call is determined at step (d) to have been terminated, performing an initialization for a CDMA-2000 system to switch the MM-MB terminal into a CDMA-2000 idle state.

7. (previously presented) The method of claim 6, wherein the MM-MB terminal inspects a CPICH (common pilot channel) periodically to receive the WCDMA signal at step (a); and

the CDMA-2000 modem is activated in step (d) while the WCDMA call is still being handled by the WCDMA modem.

8. (canceled)

9. **(currently amended)** The method of claim 6, wherein, if the WCDMA call is determined at step (d) to have not been terminated, the method further includes the steps of:

(d1) determining whether the E_c/I_o value is higher than a predetermined CDMA-2000 OFF threshold TH_{OFF} which is lower than TH_{ON} ;

(d2) if it is determined at step (d1) that the E_c/I_o value is higher than TH_{OFF} , starting to measure another time lapse, wherein said another time lapse ~~which~~ is a cumulative time during which the E_c/I_o value remains higher than TH_{OFF} , and determining whether said another time lapse exceeds a preset CDMA-2000 OFF condition time H_c ; and

(d3) if it is determined at step (d2) that said another time lapse exceeds H_c , deactivating the CDMA-2000 modem that has been activated at step (d) and returning to step (a).

10. (previously presented) The method of claim 9, wherein, if it is determined at step (d1) that the E_c/I_o value is not higher than TH_{OFF} , the MM-MB terminal returns to step (d) to determine once more whether the WCDMA call has been terminated.

11. (previously presented) The method of claim 9, wherein the CDMA-2000 modem is deactivated at step (d3) regardless of whether the E_c/I_o value is higher than TH_{ON} or not.

12. (previously presented) The method of claim 10, wherein, if it is determined at step (d2) that the another time lapse does not exceed the CDMA-2000 OFF condition time H_c , the MM-MB terminal returns to step (d) to determine once more whether the WCDMA call has been terminated.

13. (previously presented) The method of claim 6, wherein step (e) further includes the sub-steps of:

- (e1) inspecting another service channel FA (frequency assignment) of the WCDMA system;
- (e2) determining whether another WCDMA signal is found; and
- (e3) if said another WCDMA signal is found, switching the MM-MB terminal into a WCDMA idle state.

14. (previously presented) The method of claim 13, wherein, if it is determined at sub-step (e2) that no other WCDMA signal is found, the MM-MB terminal performs said initialization into the CDMA-2000 system to be switched into said CDMA-2000 idle state.

15. (previously presented) The method of claim 14, wherein, after being switched into the CDMA-2000 idle state, the MM-MB terminal deactivates the WCDMA modem.

16. (previously presented) A method of switching between a CDMA-2000 modem and a WCDMA modem of an MM-MB (multimode-multiband) terminal, when the MM-MB terminal being in a CDMA-2000 idle state moves from a CDMA-2000 zone into an overlay zone, said method comprising the steps of:

- (a) monitoring a paging channel of a CDMA-2000 system periodically while maintaining the MM-MB terminal in the CDMA-2000 idle state;
- (b) analyzing an overhead message received from the CDMA-2000 system and determining whether the MM-MB terminal is located in the overlay zone;
- (c) if the MM-MB terminal is determined to be located in the overlay zone, activating the WCDMA modem while maintaining the CDMA-2000 modem in an activated state; and
- (d) performing an initialization process for a WCDMA system to switch the MM-MB terminal from the CDMA-2000 idle state into a WCDMA idle state.

17. (previously presented) The method of claim 16, wherein the MM-MB terminal determines whether the MM-MB terminal is located in the overlay zone by investigating a base ID of a system parameter message included in the overhead message analyzed at step (b).

18. (previously presented) The method of claim 16, wherein, if the MM-MB terminal is not determined to be located in the overlay zone at step (b), the MM-MB terminal returns to step (a) to monitor the paging channel again.

19. (previously presented) The method of claim 16, wherein, after being switched into the WCDMA idle state, the MM-MB terminal deactivates the CDMA-2000 modem.

20. (previously presented) A method of switching between a CDMA-2000 modem and a WCDMA modem of an MM-MB (multimode-multiband) terminal, when the MM-MB terminal

being in a CDMA-2000 traffic state moves from a CDMA-2000 zone into an overlay zone, said method comprising the steps of:

- (a) monitoring a paging channel of a CDMA-2000 system periodically while maintaining the MM-MB terminal in the CDMA-2000 traffic state and the CDMA modem in an activated state to handle a CDMA-2000 call;
- (b) analyzing an overhead message received from the CDMA-2000 system and determining whether the MM-MB terminal is located in the overlay zone;
- (c) if the MM-MB terminal is determined to be located in the overlay zone, determining whether the CDMA-2000 call has been terminated while maintaining the MM-MB terminal in the CDMA-2000 traffic state;
- (d) if the CDMA-2000 call is determined to have been terminated, activating the WCDMA modem; and
- (e) performing an initialization process for a WCDMA system to switch the MM-MB terminal into a WCDMA idle state.

21. (previously presented) The method of claim 20, wherein the MM-MB terminal determines whether the MM-MB terminal is located in the overlay zone by investigating a base ID of a system parameter message included in the overhead message analyzed at step (b).

22. (previously presented) The method of claim 20, wherein, if the MM-MB terminal is not determined to be located in the overlay zone at step (b), the MM-MB terminal returns to step (a) to monitor the paging channel again.

23. (previously presented) The method of claim 20, wherein, after being switched into the WCDMA idle state, the MM-MB terminal deactivates the CDMA-2000 modem.

24. **(currently amended)** A multimode-multiband terminal capable of accommodating

both a synchronous CDMA-2000 service and an asynchronous WCDMA service and operating in at least two frequency bands, said terminal comprising:

- an RF (radio frequency) antenna for transceiving a CDMA-2000 signal and/or a WCDMA signal;

- an RF transceiver coupled to the RF antenna for demodulating a WCDMA pilot signal received from the RF antenna and outputting the demodulated WCDMA pilot signal;

- a pilot signal measurement unit coupled to the RF transceiver for measuring an intensity of the demodulated WCDMA pilot signal to generate an E_c/I_o value;

- a WCDMA modem and a CDMA-2000 modem coupled to the RF transceiver for processing a digital signal received from the RF transceiver and performing a call processing according to protocols defined by a WCDMA standard and a CDMA-2000 standard, respectively;

- a memory for storing a modem-to-modem switching program configured for switching between the WCDMA modem and the CDMA-2000 modem based the E_c/I_o value; and

- a controller coupled to the pilot signal measurement unit, the memory and the WCDMA and CDMA-2000 modems for

- (i) receiving the E_c/I_o value from the pilot signal measurement unit, and
 - (ii) loading and executing the modem-to-modem switching program from the memory to activate the CDMA-2000 modem, while the WCDMA modem is still being activated, if a time lapse, during which the E_c/I_o value remains lower than a predetermined CDMA-2000 ON threshold TH_{ON} , is greater than a preset CDMA-2000 ON condition time H_d .

25. (previously presented) The multimode-multiband terminal of claim 24, wherein the controller loads the modem-to-modem switching program at the moment the E_c/I_o value starts to be lower than the CDMA-2000 ON threshold TH_{ON} or when it is determined that the multimode-multiband terminal enters an overlay zone by analyzing system information.

26. (previously presented) The multimode-multiband terminal of claim 24, wherein, only after the CDMA-2000 modem has been activated and an initialization into a CDMA-2000 system has been completed so that the multimode-multiband terminal has been completely switched into a CDMA-2000 idle state, does the controller deactivate the WCDMA modem.

27. (previously presented) The multimode-multiband terminal of claim 24, wherein, even if the CDMA-2000 modem has been activated, based on the E_c/I_o value being lower than TH_{ON} during the time lapse greater than H_d , the controller still deactivates the CDMA-2000 modem if another time lapse, during which the E_c/I_o value is maintained higher than a predetermined CDMA-2000 OFF threshold TH_{OFF} , is greater than a preset CDMA-2000 OFF condition time H_c , wherein TH_{ON} is greater than TH_{OFF} .

28. (previously presented) The multimode-multiband terminal of claim 24, wherein, only after the WCDMA modem has been activated and an initialization into a WCDMA system has been completed so that the multimode-multiband terminal has been completely switched into a WCDMA idle state, does the controller deactivate the CDMA-2000 modem.

29. (previously presented) The multimode-multiband terminal of claim 27, wherein information upon the CDMA-2000 ON threshold TH_{ON} , the CDMA-2000 ON condition time H_d , the CDMA-2000 OFF threshold TH_{OFF} and the CDMA-2000 OFF condition time H_c are stored in the memory.

30. (previously presented) The multimode-multiband terminal of claim 24, further comprising a timer for measuring the time lapse and reporting the time lapse to the controller.

31-32. (canceled)